

Applicant: Stinson, J.

Application No: 10/721,702

Response to Final Office Action dated February 20, 2007

Amendment and Response dated April 20, 2007

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**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the subject application, and please amend the claims as follows:

Claims 1.-29. (Canceled)

Claim 30. (Previously presented) A bioabsorbable endoprosthesis consisting essentially of:

a plurality of elongate elements having an outer surface, the elements including a bioabsorbable polymer adapted to undergo degradation *in vivo*, the elements including an elongate, axially extending reservoir portion adapted to collect a by-product of the degradation of the bioabsorbable polymer;

wherein the elements occupy a total element volume including a reservoir volume occupied by the at least one reservoir portion, and the reservoir volume is at least about ten percent of the total element volume.

Claims 31-43. (Canceled)

Claim 44. (Previously presented) The endoprosthesis of claim 30 wherein:  
the reservoir portion comprises at least one axially extending core open to opposite ends of the element.

Claim 45. (Withdrawn) The endoprosthesis of claim 44 wherein:  
the reservoir portion comprises a plurality of the axial extending cores.

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Claim 46. (Previously presented) The endoprosthesis of claim 44 wherein:  
a volume of the at least one axially extending core comprises from about ten percent to about 30 percent of the total element volume.

Claim 47. (Withdrawn) The endoprosthesis of claim 30 wherein:  
the reservoir portion comprises at least one axially extending internal cavity recessed from the outer surface.

Claim 48. (Withdrawn) The endoprosthesis of claim 47 wherein:  
the at least one cavity occupies a cavity volume ranging from about ten percent to about thirty percent of the total element volume.

Claim 49. (Withdrawn) The endoprosthesis of claim 47 wherein:  
an average cross-sectional area of the cavity ranges from about ten percent to about thirty percent of a cross-sectional area of the elongate element.

Claim 50. (Previously presented) The endoprosthesis of claim 30 wherein:  
the volume of the reservoir portion ranges from twenty percent to about forty percent of the total element volume.

Claim 51. (Previously presented) The endoprosthesis of claim 30 wherein:  
the plurality of elongate elements is formed into a tubular, radially expandable structure.

Claim 52. (Previously presented) The endoprosthesis of claim 51 wherein:  
the plurality of elongate elements comprises a first plurality of elements helically wound about an axis in a first direction, and a second plurality of elements helically

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wound about the axis in a second direction opposite the first direction to form multiple crossings with the first plurality of the elements.

Claim 53. (Previously presented) The endoprosthesis of claim 52 wherein:  
the first and second pluralities of the elongate elements, at the multiple crossings,  
form crossing angles ranging from about 120 degrees to about 150 degrees.

Claim 54. (Previously presented) The endoprosthesis of claim 52 wherein:  
the first and second pluralities of the elongate elements are interbraided.

Claim 55. (Previously presented) The endoprosthesis of claim 30 wherein:  
the bioabsorbable polymer consists essentially of a polymer from the group  
consisting of: PLLA, PDLA, and their combinations.

Claim 56. (Previously presented) The endoprosthesis of claim 30 wherein:  
the bioabsorbable polymer consists essentially of a polymer selected from the  
group consisting of: polylactide, polyglycolide, and their combinations.

Claim 57. (Previously presented) The endoprosthesis of claim 30 wherein:  
the bioabsorbable polymer consists of a polymer selected from the group  
consisting of: polyglycolide, polygluconate, polydioxanone, and their combinations.

Claim 58. (Previously presented) The endoprosthesis of claim 30 wherein:  
the plurality of elongate elements consists essentially of the bioabsorbable  
polymer.

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Claim 59. (Previously presented) The endoprosthesis of claim 30 wherein:  
the plurality of elongate elements is flexible.

Claims 60-75. (Canceled)

Claim 76. (Previously presented) The endoprosthesis of claim 51 wherein:  
the number of elements,  $N$ , is equal to about  $(D/(0.022D + 0.17)) \pm 4$  filaments,  
where  $D$ , in mm, is the free state diameter of the tubular structure.

Claim 77. (Previously presented) The endoprosthesis of claim 51 wherein:  
the number of elements,  $N$ , is from about 10 to about 36 filaments.

Claim 78. (Previously presented) The endoprosthesis of claim 30 wherein:  
the number of elements is from about 10 to about 36 filaments.

Claim 79. (Previously presented) The endoprosthesis of claim 51 wherein:  
the structure has a radial force of from about 40 grams to about 300 grams at  
about one-half the diameter  $D$ , where  $D$  is the free state diameter of the tubular structure.

Claim 80. (Previously presented) The endoprosthesis of claim 51 wherein:  
the elongate elements have a thickness,  $t$  in mm, of about  $(D/(1.8D + 15)) \pm 0.03$   
mm, where  $D$ , in mm, is the free state diameter of the tubular structure.

Claim 81. (Previously presented) The endoprosthesis of claim 30 wherein:  
the number of elements,  $N$ , is equal to about  $(D/(0.022D + 0.17)) \pm 4$  filaments,  
where  $D$ , in mm, is the free state diameter of the endoprosthesis; and the elongate

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elements have a thickness,  $t$  in mm, of about  $(D/(1.8D + 15)) \pm 0.03$  mm, where  $D$ , in mm, is the free state diameter of the endoprosthesis.

Claim 82. (Currently amended) A bioabsorbable endoprosthesis consisting essentially of comprising:

a plurality of elongate elements interbraided into a tubular, radially expandable structure, each of the elongate elements having an outer surface, the elements including a bioabsorbable polymer adapted to undergo degradation *in vivo*, the elements including an elongate, axially extending reservoir portion adapted to collect a by-product of the degradation of the bioabsorbable polymer;

wherein the each of the elements occupies a total element volume including a reservoir volume occupied by the at least one reservoir portion, and the reservoir volume is at least about ten percent of the total element volume;

the number of elements,  $N$ , is equal to about  $(D/(0.022D + 0.17)) \pm 4$  filaments, where  $D$ , in mm, is the free state diameter of the tubular structure; and

the elongate elements have a thickness,  $t$  in mm, of about  $(D/(1.8D + 15)) \pm 0.03$  mm, where  $D$ , in mm, is the free state diameter of the tubular structure.

Claim 83. (Previously presented) The endoprosthesis of claim 82 wherein:  
the number of elements,  $N$ , is from about 10 to about 36 filaments.

Claim 84. (Previously presented) The endoprosthesis of claim 82 wherein:  
the reservoir portion comprises at least one axially extending core open to opposite ends of the element.